

# MATH 125 Finance Formula Sheet

## Simple Interest

$$I = Prt$$

$$A = P(1 + rt)$$

## Compound Interest

$$A = P \left(1 + \frac{r}{n}\right)^{nt}$$

$$P = \frac{A}{\left(1 + \frac{r}{n}\right)^{nt}}$$

$$A = Pe^{rt}$$

$$APY = \left(1 + \frac{r}{n}\right)^n - 1$$

## Annuities

Future Value:

$$PMT = FV \cdot \frac{\left(\frac{r}{n}\right)}{\left[\left(1 + \frac{r}{n}\right)^{nt} - 1\right]}$$

$$FV = PMT \cdot \frac{\left[\left(1 + \frac{r}{n}\right)^{nt} - 1\right]}{\left(\frac{r}{n}\right)}$$

Present Value:

$$PMT = \frac{\left(P \cdot \frac{r}{n}\right)}{\left[1 - \left(1 + \frac{r}{n}\right)^{-nt}\right]}$$

## Credit Cards

$$R = \frac{-\log\left[1 - \frac{r}{n}\left(\frac{A}{PMT}\right)\right]}{\log\left(1 + \frac{r}{n}\right)}$$